

SEQUENCE LISTING



<110> Moore et al.

<120> Human FK506 Binding Proteins

<130> PF392

<140> 09/225,502

<141> 1999-01-06

<150> 60/070,875

<151> 1998-01-09

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<170> PatentIn Ver. 2.1

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ctg	cag	ttg	ctg	cta	ctg	gtg	gtg	cag	gcc	gtg	ggg	agg	ggg	ctg	ggc	156
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Arg	Ala	Ser	Pro	Ala	Gly	Gly	Pro	Leu	Glu	Asp	Val	Val	Ile	Glu	Arg	
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tac	cac	atc	ccc	agg	gcc	tgt	ccc	cgg	gaa	gtg	cag	atg	ggg	gat	ttt	252
Tyr	His	Ile	Pro	Arg	Ala	Cys	Pro	Arg	Glu	Val	Gln	Met	Gly	Asp	Phe	
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Ser	Ser	Tyr	Asp	Arg	Asn	Thr	Leu	Val	Ala	Ile	Val	Val	Gly	Val	Gly	
				85					90					95		

cgc	ctc	atc	act	ggc	atg	gac	cga	ggc	ctc	atg	ggc	atg	tgt	gtc	aac	396
Arg	Leu	Ile	Thr	Gly	Met	Asp	Arg	Gly	Leu	Met	Gly	Met	Cys	Val	Asn	
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gag	cgg	cga	cgc	ctc	att	gtg	cct	ccc	cac	ctg	ggc	tat	ggg	agc	atc	444
Glu	Arg	Arg	Arg	Leu	Ile	Val	Pro	Pro	His	Leu	Gly	Tyr	Gly	Ser	Ile	
			115				120					125				

ggc	ctg	gcg	ggg	ctc	att	cca	ccg	gat	gcc	acc	ctc	tac	ttc	gat	gtg	492
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 Val Leu Leu Asp Val Trp Asn Lys Glu Asp Thr Val Gln Val Ser Thr
 145 150 155 160
 ttg ctg cgc ccg ccc cac tgc ccc cgc atg gtc cag gac ggc gac ttt 588
 Leu Leu Arg Pro Pro His Cys Pro Arg Met Val Gln Asp Gly Asp Phe
 165 170 175
 gtc cgc tac cac tac aat ggc acc ctg ctg gac ggc acc tcc ttc gac 636
 Val Arg Tyr His Tyr Asn Gly Thr Leu Leu Asp Gly Thr Ser Phe Asp
 180 185 190
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 Thr Ser Tyr Ser Lys Gly Gly Thr Tyr Asp Thr Tyr Val Gly Ser Gly
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 Gln Arg Arg Lys Ile Ile Ile Pro Pro Phe Leu Ala Tyr Gly Glu Lys
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 ggc tat ggt gag ggt ggg caa gga cac aag ggg aaa ttc cgc aga aga 828
 Gly Tyr Gly Glu Gly Gly Gln Gly His Lys Gly Lys Phe Arg Arg Arg
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 Gly Lys Asn Gln Ala Ser Thr Tyr Ser Cys Ser Gly Cys Ile Leu His
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 Tyr His Ile Pro Arg Ala Cys Pro Arg Glu Val Gln Met Gly Asp Phe
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 Val Arg Tyr His Tyr Asn Gly Thr Phe Glu Asp Gly Lys Lys Phe Asp
 65 70 75 80
 Ser Ser Tyr Asp Arg Asn Thr Leu Val Ala Ile Val Val Gly Val Gly
 85 90 95
 Arg Leu Ile Thr Gly Met Asp Arg Gly Leu Met Gly Met Cys Val Asn
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 Glu Arg Arg Arg Leu Ile Val Pro Pro His Leu Gly Tyr Gly Ser Ile
 115 120 125
 Gly Leu Ala Gly Leu Ile Pro Pro Asp Ala Thr Leu Tyr Phe Asp Val
 130 135 140
 Val Leu Leu Asp Val Trp Asn Lys Glu Asp Thr Val Gln Val Ser Thr
 145 150 155 160
 Leu Leu Arg Pro Pro His Cys Pro Arg Met Val Gln Asp Gly Asp Phe
 165 170 175
 Val Arg Tyr His Tyr Asn Gly Thr Leu Leu Asp Gly Thr Ser Phe Asp
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 Thr Ser Tyr Ser Lys Gly Gly Thr Tyr Asp Thr Tyr Val Gly Ser Gly
 195 200 205
 Trp Leu Ile Lys Gly Met Asp Gln Gly Leu Leu Gly Met Cys Pro Gly
 210 215 220
 Gln Arg Arg Lys Ile Ile Ile Pro Pro Phe Leu Ala Tyr Gly Glu Lys
 225 230 235 240
 Gly Tyr Gly Glu Gly Gly Gln Gly His Lys Gly Lys Phe Arg Arg Arg
 245 250 255
 Gly Lys Asn Gln Ala Ser Thr Tyr Ser Cys Ser Gly Cys Ile Leu His
 260 265 270
 Glu Gly Ile Gln Pro Arg Thr Gln Gly Gly Met Lys Ser Thr Leu Gly
 275 280 285
 Ala Thr Lys Lys Gly Cys Phe Gly Arg Ala Trp Trp Leu Thr Leu Val
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Ser Phe Asp Thr Ser Tyr Ser Lys Gly Gly Thr Tyr Asp Thr Tyr Val			
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ggc tct ggt tgg ctg atc aag ggc atg gac cag ggg ctg ctg ggc atg	241		
Gly Ser Gly Trp Leu Ile Lys Gly Met Asp Gln Gly Leu Leu Gly Met			
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Cys Pro Gly Glu Arg Arg Lys Ile Ile Ile Pro Pro Phe Leu Ala Tyr			
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Gly Glu Lys Gly Tyr Gly Thr Val Ile Pro Pro Gln Ala Ser Leu Val			
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 Gly Ser Gly Trp Leu Ile Lys Gly Met Asp Gln Gly Leu Leu Gly Met
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 Cys Pro Gly Glu Arg Arg Lys Ile Ile Ile Pro Pro Phe Leu Ala Tyr
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 Cys Met Gly Glu Arg Arg Arg Ile Thr Ile Pro Pro His Leu Ala Tyr
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 Phe Asn Val His Val Ile Asp Phe His Asn Pro Ala Asp Val Val Glu
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 Gly Ser Asp Ala Glu Leu Gln Ile Glu Arg Arg Phe Val Pro Asp Glu
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 Cys Pro Arg Thr Val Arg Ser Gly Asp Phe Val Arg Tyr His Tyr Val
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 Gly Thr Phe Pro Asp Gly Gln Lys Phe Asp Ser Ser Tyr Asp Arg Asp
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 Ser Thr Phe Asn Val Phe Val Gly Lys Gly Gln Leu Ile Thr Gly Met
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 320 325 330

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 Thr Tyr Asn Ile Val Leu Gly Ser Gly Gln Val Val Leu Gly Met Asp
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 atg ggt ctc aga gag atg tgc gtt ggc gag aaa cgg aca gtg atc att 1467
 Met Gly Leu Arg Glu Met Cys Val Gly Glu Lys Arg Thr Val Ile Ile
 435 440 445
 ccg cct cac ctg ggc tat ggg gaa gct ggc gtg gat gga gaa gtg ccc 1515
 Pro Pro His Leu Gly Tyr Gly Glu Ala Gly Val Asp Gly Glu Val Pro
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 ggc agt gcc gta tta gtg ttt gac att gag cts ctg gag ctg gtg gct 1563
 Gly Ser Ala Val Leu Val Phe Asp Ile Glu Xaa Leu Glu Leu Val Ala
 465 470 475
 ggc ctt cct gag ggg tac atg ttc ata tgg aat ggt gag gtg tca ccc 1611
 Gly Leu Pro Glu Gly Tyr Met Phe Ile Trp Asn Gly Glu Val Ser Pro
 480 485 490
 aac ctc ttt gaa gaa att gac aag gat ggc aac gga gaa gtc ctc ctg 1659
 Asn Leu Phe Glu Glu Ile Asp Lys Asp Gly Asn Gly Glu Val Leu Leu
 495 500 505 510
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 Glu Glu Phe Ser Glu Tyr Ile His Ala Gln Val Ala Ser Gly Lys Gly
 515 520 525
 aaa ctc gct cct ggc ttt gat gct gag ctg att gtg aag aat atg ttc 1755
 Lys Leu Ala Pro Gly Phe Asp Ala Glu Leu Ile Val Lys Asn Met Phe
 530 535 540
 acc aac cag gac cgg aat gga gat ggg aag gtc aca gcc gag gaa ttt 1803
 Thr Asn Gln Asp Arg Asn Gly Asp Gly Lys Val Thr Ala Glu Glu Phe
 545 550 555
 aaa ctc ara gac cag gaa gcc aaa cac gat gta act cta aac ctg gca 1851
 Lys Leu Xaa Asp Gln Glu Ala Lys His Asp Val Thr Leu Asn Leu Ala
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<212> PRT

<213> Homo sapiens

<400> 6

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Asp Ala Glu Leu Gln Ile Glu Arg Arg Phe Val Pro Asp Glu Cys Pro
 35 40 45

Arg Thr Val Arg Ser Gly Asp Phe Val Arg Tyr His Tyr Val Gly Thr
 50 55 60

Phe Pro Asp Gly Gln Lys Phe Asp Ser Ser Tyr Asp Arg Asp Ser Thr
 65 70 75 80
 Phe Asn Val Phe Val Gly Lys Gly Gln Leu Ile Thr Gly Met Asp Gln
 85 90 95
 Ala Leu Val Gly Met Cys Val Asn Glu Arg Arg Phe Val Lys Ile Pro
 100 105 110
 Pro Lys Leu Ala Tyr Gly Asn Glu Arg Val Ser Gly Val Ile Pro Pro
 115 120 125
 Asn Ser Val Leu His Phe Asp Val Leu Leu Met Asp Ile Trp Asn Ser
 130 135 140
 Glu Asp Gln Val Gln Ile His Thr Tyr Phe Lys Pro Pro Ser Cys Pro
 145 150 155 160
 Arg Thr Ile Gln Val Ser Asp Phe Val Arg Tyr His Tyr Asn Gly Thr
 165 170 175
 Phe Leu Asp Gly Thr Leu Phe Asp Ser Ser His Asn Arg Met Lys Thr
 180 185 190
 Tyr Asp Thr Tyr Val Gly Ile Gly Trp Leu Ile Pro Gly Met Asp Lys
 195 200 205
 Gly Leu Leu Gly Met Cys Val Gly Glu Lys Arg Ile Ile Thr Ile Pro
 210 215 220
 Pro Phe Leu Ala Tyr Gly Glu Asp Gly Asp Gly Lys Asp Ile Pro Gly
 225 230 235 240
 Gln Ala Ser Leu Val Phe Asp Val Ala Leu Leu Asp Leu His Asn Pro
 245 250 255
 Lys Asp Ser Ile Ser Ile Glu Asn Lys Val Val Pro Glu Asn Cys Glu
 260 265 270
 Arg Ile Ser Gln Ser Gly Asp Phe Leu Thr Tyr His Tyr Asn Gly Thr
 275 280 285
 Leu Leu Asp Gly Thr Leu Phe Asp Ser Ser Tyr Ser Arg Asn Arg Thr
 290 295 300
 Phe Asp Thr Tyr Ile Gly Gln Gly Tyr Val Ile Pro Gly Met Asp Glu
 305 310 315 320
 Gly Leu Leu Gly Val Cys Ile Gly Glu Lys Arg Xaa Ile Val Val Pro
 325 330 335
 Pro His Leu Gly Tyr Gly Glu Glu Gly Arg Gly Asn Ile Pro Gly Ser
 340 345 350
 Ala Val Leu Val Phe Asp Ile His Val Ile Asp Phe His Asn Pro Ser
 355 360 365
 Asp Ser Ile Ser Ile Thr Ser His Tyr Lys Pro Pro Asp Cys Ser Val
 370 375 380
 Leu Ser Lys Lys Gly Asp Tyr Leu Lys Tyr His Tyr Asn Ala Ser Leu
 385 390 395 400

Leu Asp Gly Thr Leu Leu Asp Ser Thr Trp Asn Leu Gly Lys Thr Tyr
 405 410 415
 Asn Ile Val Leu Gly Ser Gly Gln Val Val Leu Gly Met Asp Met Gly
 420 425 430
 Leu Arg Glu Met Cys Val Gly Glu Lys Arg Thr Val Ile Ile Pro Pro
 435 440 445
 His Leu Gly Tyr Gly Glu Ala Gly Val Asp Gly Glu Val Pro Gly Ser
 450 455 460
 Ala Val Leu Val Phe Asp Ile Glu Xaa Leu Glu Leu Val Ala Gly Leu
 465 470 475 480
 Pro Glu Gly Tyr Met Phe Ile Trp Asn Gly Glu Val Ser Pro Asn Leu
 485 490 495
 Phe Glu Glu Ile Asp Lys Asp Gly Asn Gly Glu Val Leu Leu Glu Glu
 500 505 510
 Phe Ser Glu Tyr Ile His Ala Gln Val Ala Ser Gly Lys Gly Lys Leu
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 Ala Pro Gly Phe Asp Ala Glu Leu Ile Val Lys Asn Met Phe Thr Asn
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 Xaa Asp Gln Glu Ala Lys His Asp Val Thr Leu Asn Leu Ala
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 Leu Leu Gly Met Cys Val Gly Glu Lys Arg Ile Ile Thr Ile Pro Pro
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 ttt ctg gcc tat gga gag gat gga gat ggg aaa gac att ccc ggt cag 143
 Phe Leu Ala Tyr Gly Glu Asp Gly Asp Gly Lys Asp Ile Pro Gly Gln
 35 40 45
 gca tct ctg gtg ttt gat gtt gca tta ttg gac ctc cat aac ccc aag 191
 Ala Ser Leu Val Phe Asp Val Ala Leu Leu Asp Leu His Asn Pro Lys
 50 55 60
 gac agc att tcc att gag aac aag gta gta cct gaa aac tgt gag cgg 239

Asp	Ser	Ile	Ser	Ile	Glu	Asn	Lys	Val	Val	Pro	Glu	Asn	Cys	Glu	Arg		
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ata	agt	caa	agt	ggg	gac	ttt	ctc	agg	tat	cat	tac	aat	ggc	acg	ctt	287	
Ile	Ser	Gln	Ser	Gly	Asp	Phe	Leu	Arg	Tyr	His	Tyr	Asn	Gly	Thr	Leu	95	
80				85					90								
ctg	gat	ggc	acc	ctc	ttt	gat	tcc	agc	tac	tct	cgg	aac	cgc	acg	ttt	335	
Leu	Asp	Gly	Thr	Leu	Phe	Asp	Ser	Ser	Tyr	Ser	Arg	Asn	Arg	Thr	Phe		
				100					105					110			
gac	acg	tac	att	ggg	cag	ggc	tac	gtg	att	cct	ggg	atg	gat	gaa	ggc	383	
Asp	Thr	Tyr	Ile	Gly	Gln	Gly	Tyr	Val	Ile	Pro	Gly	Met	Asp	Glu	Gly		
			115					120					125				
cta	ctt	ggc	gtt	tgc	att	gga	gaa	aag	cga	agg	att	gtg	gtc	ccg	cct	431	
Leu	Leu	Gly	Val	Cys	Ile	Gly	Glu	Lys	Arg	Arg	Ile	Val	Val	Pro	Pro		
		130						135				140					
cac	ctg	ggg	tat	gga	gag	gaa	gga	aga	ggg	aat	atc	ccc	ggc	tcg	gct	479	
His	Leu	Gly	Tyr	Gly	Glu	Glu	Gly	Arg	Gly	Asn	Ile	Pro	Gly	Ser	Ala		
	145						150					155					
gtg	ctg	gtg	ttt	gac	atc	cat	gtg	atc	gac	ttc	cac	aac	cct	tcg	gac	527	
Val	Leu	Val	Phe	Asp	Ile	His	Val	Ile	Asp	Phe	His	Asn	Pro	Ser	Asp		
160					165				170						175		
tcc	atc	agc	atc	acc	tcc	cac	tac	aaa	ccc	cct	gac	tgc	tca	gtg	ctg	575	
Ser	Ile	Ser	Ile	Thr	Ser	His	Tyr	Lys	Pro	Pro	Asp	Cys	Ser	Val	Leu		
				180					185					190			
agt	aag	aag	gga	gat	tac	ctc	aaa	tat	cac	tac	aat	gcc	tca	ctt	ctg	623	
Ser	Lys	Lys	Gly	Asp	Tyr	Leu	Lys	Tyr	His	Tyr	Asn	Ala	Ser	Leu	Leu		
			195					200					205				
gat	ggg	acc	ctg	ctg	gac	tcc	acg	tgg	aat	tta	ggc	aaa	act	tac	aat	671	
Asp	Gly	Thr	Leu	Leu	Asp	Ser	Thr	Trp	Asn	Leu	Gly	Lys	Thr	Tyr	Asn		
		210					215					220					
att	gtt	ctg	gga	tct	ggg	caa	gtt	gtg	ttg	ggg	atg	gac	atg	ggc	ctc	719	
Ile	Val	Leu	Gly	Ser	Gly	Gln	Val	Val	Leu	Gly	Met	Asp	Met	Gly	Leu		
	225					230					235						
aga	gag	atg	tgc	gtt	ggc	gag	aaa	cgg	aca	gtg	atc	att	ccg	cct	cac	767	
Arg	Glu	Met	Cys	Val	Gly	Glu	Lys	Arg	Thr	Val	Ile	Ile	Pro	Pro	His		
240					245					250					255		
ctg	ggc	tat	ggg	gaa	gct	ggc	gtg	gat	gga	gaa	gtg	ccc	ggc	agt	gcc	815	
Leu	Gly	Tyr	Gly	Glu	Ala	Gly	Val	Asp	Gly	Glu	Val	Pro	Gly	Ser	Ala		
				260					265					270			
gta	tta	gtg	ttt	gac	att	gag	ctg	ctg	gag	ctg	gtg	gct	ggc	ctt	cct	863	
Val	Leu	Val	Phe	Asp	Ile	Glu	Leu	Leu	Glu	Leu	Val	Ala	Gly	Leu	Pro		
			275					280					285				
gag	ggg	tac	atg	ttc	ata	tgg	aat	ggc	gag	gtg	tca	ccc	aac	ctc	ttt	911	
Glu	Gly	Tyr	Met	Phe	Ile	Trp	Asn	Gly	Glu	Val	Ser	Pro	Asn	Leu	Phe		
		290					295					300					
gaa	gaa	atc	aac	aag	gtg	aca	ttt	ttc	tgc	tgc	cca	ttt	gtg	tcc	tgg	959	
Glu	Glu	Ile	Asn	Lys	Val	Thr	Phe	Phe	Cys	Cys	Pro	Phe	Val	Ser	Trp		
	305					310					315						

aga cgg tgg tac cct gaa ggc aga ggc cag ctg ccg caa gac agc aat 1007
 Arg Arg Trp Tyr Pro Glu Gly Arg Gly Gln Leu Pro Gln Asp Ser Asn
 320 325 330 335

gac agt cca cct gcc gac ctg att cct gca tca tgg aat aac cac atg 1055
 Asp Ser Pro Pro Ala Asp Leu Ile Pro Ala Ser Trp Asn Asn His Met
 340 345 350

gct acc ttc tat cct ctg ttc cca aat ggt ggt ggc act tat cct gaa 1103
 Ala Thr Phe Tyr Pro Leu Phe Pro Asn Gly Gly Gly Thr Tyr Pro Glu
 355 360 365

gtc gtc aat gat ttc cct ttg aaa cta ctt tat ttt act aat tta aac 1151
 Val Val Asn Asp Phe Pro Leu Lys Leu Leu Tyr Phe Thr Asn Leu Asn
 370 375 380

tat ttt gta ctg atg tagccctgag gtagttcatg aaaaatgctg tgcactcatt 1206
 Tyr Phe Val Leu Met
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ccatgggaat aaatgttggg aaagctgaaa aaaaaaaaaa aaaaa 1251

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 <212> PRT
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 L G M C V E A K R I I T I P A M
 Leu Ala Tyr Gly Glu Asp Gly Asp Gly Lys Asp Ile Pro Gly Gln Ala
 35 40 45
 L A Y G E D S G K D I F S I I
 Ser Leu Val Phe Asp Val Ala Leu Leu Asp Leu His Asn Pro Lys Asp
 50 55 60
 S E L F D V A L L L L L L L L L L L
 Ser Ile Ser Ile Glu Asn Lys Val Val Pro Glu Asn Cys Glu Arg Ile
 65 70 75 80
 S S S S S S S S S S S S S S S S
 Ser Gln Ser Gly Asp Phe Leu Arg Tyr His Tyr Asn Gly Thr Leu Leu
 85 90 95
 S G S G D F L R Y H Y N A T L L
 Asp Gly Thr Leu Phe Asp Ser Ser Tyr Ser Arg Asn Arg Thr Phe Asp
 100 105 110
 D G W L F D S C Y S R N R T F D
 Thr Tyr Ile Gly Gln Gly Tyr Val Ile Pro Gly Met Asp Glu Gly Leu
 115 120 125
 T Y I G Q G Y V I P G M D E G L
 Leu Gly Val Cys Ile Gly Glu Lys Arg Arg Ile Val Val Pro Pro His
 130 135 140
 L G V C I S L R I L L L L L L L L L L
 Leu Gly Tyr Gly Glu Glu Gly Arg Gly Asn Ile Pro Gly Ser Ala Val
 145 150 155 160
 L G Y G E L S S S S S S S S S S
 Leu Val Phe Asp Ile His Val Ile Asp Phe His Asn Pro Ser Asp Ser
 165 170 175
 S D L L L L L L L L L L L L L L L L
 Ile Ser Ile Thr Ser His Tyr Lys Pro Pro Asp Cys Ser Val Leu Ser
 180 185 190 195 200
 L S I T S F Y L P L C L L S

180

185

190

Lys Lys Gly Asp Tyr Leu Lys Tyr His Tyr Asn Ala Ser Leu Leu Asp
 K K 195 D Y L L 200 Y H Y N A 205 L L D

Gly Thr Leu Leu Asp Ser Thr Trp Asn Leu Gly Lys Thr Tyr Asn Ile
 G 210 L L D S 215 W N L G 220 K T Y N F

Val Leu Gly Ser Gly Gln Val Val Leu Gly Met Asp Met Gly Leu Arg
 225 V L G S G 230 N V V L G 235 M S M A L 240 R

Glu Met Cys Val Gly Glu Lys Arg Thr Val Ile Ile Pro Pro His Leu
 E M C V 245 G E K R T V 250 I I P P 255 H L

Gly Tyr Gly Glu Ala Gly Val Asp Gly Glu Val Pro Gly Ser Ala Val
 G Y G 260 E D G U D 265 G E V P G 270 S A V

Leu Val Phe Asp Ile Glu Leu Leu Glu Leu Val Ala Gly Leu Pro Glu
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Gly Tyr Met Phe Ile Trp Asn Gly Glu Val Ser Pro Asn Leu Phe Glu
 G 290 F P N D E L V S 300 P N L T E

Glu Ile Asn Lys Val Thr Phe Phe Cys Cys Pro Phe Val Ser Trp Arg
 305 E I A I T T C C P F V S W R 320

Arg Trp Tyr Pro Glu Gly Arg Gly Gln Leu Pro Gln Asp Ser Asn Asp
 R W Y P E 325 G R G Q L P A D S D 335

Ser Pro Pro Ala Asp Leu Ile Pro Ala Ser Trp Asn Asn His Met Ala
 S P P A L L P P W N A H M A 340 345 350

Thr Phe Tyr Pro Leu Phe Pro Asn Gly Gly Gly Thr Tyr Pro Glu Val
 T F Y P L E P A G I S T P E V 355 360 365

Val Asn Asp Phe Pro Leu Lys Leu Leu Tyr Phe Thr Asn Leu Asn Tyr
 V 370 V L K L N S T N L N Y 375 380

Phe Val Leu Met
 385

F L M